Python Access to Real-time and Archive Satellite Data

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The University of Wisconsin-Madison Space Science and Engineering Center (SSEC) Data Center provides real-time and archive satellite data images and products to University, NOAA, and NASA researchers and commercial interests. The SSEC Data Center has ingested, redistributed, archived, and processed satellite data for over 35 years. Data can be accessed using any software that can access ADDE servers.

Archive Data Access

All geostationary data received at UW SSEC are archived and stored online for rapid access by networked clients. A publicly available metadata inventory allows users to inspect and preview images in the Data Center's archive covering 35+ years of geostationary satellite data holdings. Starting in late 2015, all of the geostationary satellite data in the UW SSEC archive will be available for **free via ADDE.** To access these data, sites will need to register for an access key, and daily data limits will be enforced. Only data older than 6 months old will be freely available. Data will be accesible via McIDAS-X, McIDAS-V, or any other client that supports ADDE.

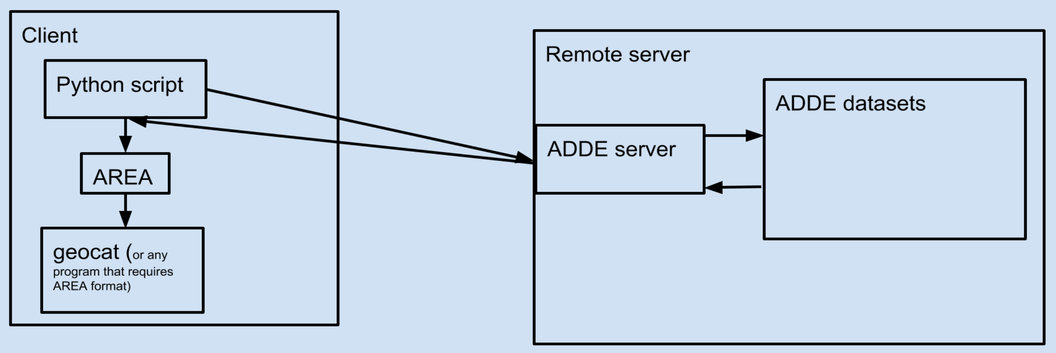
UW SSEC is currently developing two ways to access these data using Python.
1. McIDAS-X within Python.
2. Python direct access to ADDE datasets and returns netcdf3 files.

Archive data available

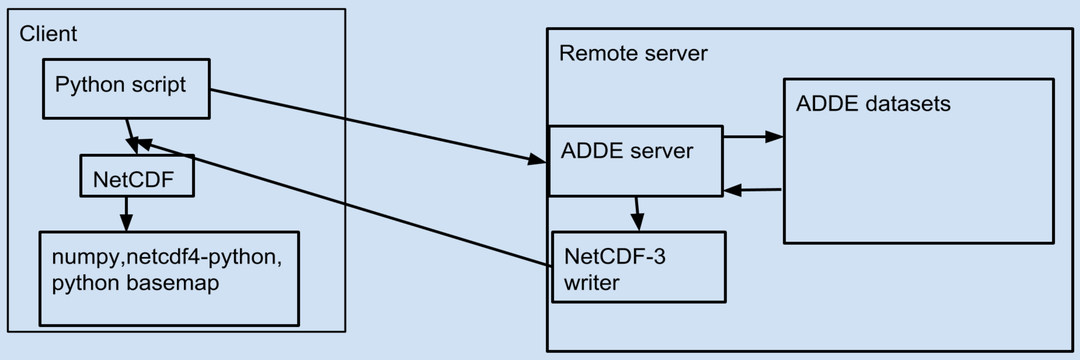
• SMS-1 &2	1978-1981
• GOES-1 ->15	1978-Present
• Meteosat-3,5,7,8,9,1	1999-Present
• GMS-5	1998-2003
• MTSAT-1R,2	2005-Present
• Himawari-8	2015-Present
• COMS-1	2012-Present
• FY2-C,D,E	2005-Present
• Kalpana	2004-Present
• Insat-3D	2014-Present

1978-1998
GOES data was written to Umatic tapes. That data was later ingested from tape and put into an online digital archive.

1998-Present
Data was written to 3590 tapes until 2005. That data was eventually put into an online digital archive. All data since 2005 are written directly to the online archive



Server returning AREA formated files



Server returning Netcdf formated files

Real-time Data Access

The SSEC Data Center receives data from 11 different geostationary satellites and serves that data in near real-time. These data are received via domestic communication satellite relays, internet relays, and through the NOAA Data Distribution Server (DDS). The data supports several University, NASA, and NOAA projects including a test distribution to NOAA NWS forecast offices. Data can be accessed through the UW SSEC Datacenter via real-time subscription.

GVAR SDI

GOES-R SDI

Geostationary Satellite Data available

- GOES-East, West, Test
- GOES-R (starting in 2016)
- Meteosat-Prime
- Meteosat IODC
- MTSAT-1R,2
- Himawari-8
- COMS-1
- FY2-D,E
- Kalpana
- Insat-3D

UW SSEC antennas

http://www.ssec.wisc.edu/datacenter

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